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Subject: [releases] - University of Regina part of international research team
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University of Regina part of international research team

The University of Regina Physics Department is part of an international research team looking into how matter is held together.

There is a combined investment of \$1.8 million for the Regina portion of the project, which will cover equipment and salaries of researchers and students during the next three years. About \$600,000 is coming from the Natural Sciences and Engineering Research Council of Canada (NSERC), the federal funding agency for university-based research and student training. The other \$1.2 million is coming from the U.S. Department of Energy.

"It's rare to have such international agreements, where large amounts of research dollars are transferred to another country, but it's because the U of R is recognized as a world leader in research in this area," explains one of the Regina researchers, Dr. Zisis Papandreou, a professor of physics.

The U of R is part of a \$310 million project being led by the Thomas Jefferson National Accelerator Facility in Newport News, Virginia. Physicists have only been able to theorize about how matter binds together. It's hoped this research - called the GlueX experiment - will be able to test the theories. There are also research teams involved in the project from Indiana University and Carnegie Mellon University, among others.

Part of the project - a barrel calorimeter, which measures energy - will be constructed at the University of Regina starting in June. The barrel calorimeter, which will be four meters long and one metre in diameter, will have about one-million optical fibres imbedded in lead sheets. The calorimeter measures the energy and timing of particles that pass through it, which may help physicists learn more about protons and neutrons and how they are bound together.

Earlier this month, Dr. Papandreou, along with Dr. George Lolos of the U of R, attended a groundbreaking ceremony for a \$14 million experimental hall at the Jefferson facility in Virginia. This is where the GlueX experiment will be housed and where scientists will study the properties of gluons that bind protons and neutrons.

"This is basic research, so at this point we cannot say what we might learn about direct applications to everyday life," says Dr. Papandreou. "But in the past, basic research in other areas has led to such things as CD players, scanners at store checkouts, and MRI machines used in medicine. Basic research is driven by human curiosity, and there are often spinoffs later."

Dr. Papandreou and Dr. Lolos - who are U of R alumni - have been researching this field for about 10 years. Dr. Lolos is deputy spokesman of the experiment and Dr. Papandreou is a member of the Collaboration Board. Dr. Papandreou will be in Newport News, Virginia, from May 11 to 13, representing the U of R at a GlueX Collaboration Meeting, as plans move forward to start construction of research facilities for the project.

For more information please contact Dr. Papandreou at his office at the U of R at (306)-585-5379, on his cell at (306)-596-7775 or by email at zisis.papandreou@uregina.ca.

His webpage is <http://www.phys.uregina.ca/sparro/zisis>.

-30-

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